

Title (en)

Reducing sparkle artifacts with low brightness filtering

Title (de)

Verminderung von Funkelartefakten mit Filterung der niedrigen Helligkeitswerte

Title (fr)

Réduction des artefacts de scintillement avec filtrage de la luminance faible

Publication

**EP 1239450 A2 20020911 (EN)**

Application

**EP 02290585 A 20020308**

Priority

US 80348501 A 20010309

Abstract (en)

A video signal (INPUT X) is decomposed into a higher brightness level signal (HIGH) and a lower brightness level signal (LOW). The threshold (T) between higher and lower brightness levels is adjustable and related to the transition between lower and higher gain portions of the gamma table for an associated liquid crystal imager. The lower brightness level signal is low pass filtered (in 22) to reduce the difference in brightness between adjacent pixels. The higher brightness level signal is delayed in time (in 24) to match the processing delay through the low pass filter. The delay matched signal and the low pass filtered signal are combined (in 26) to form a modified video signal (OUTPUT X') less likely to result in sparkle artifacts in the imager. Sparkle reduction processing can be applied to luminance signals and to video drive signals in various combinations, based on independently selectable thresholds (Fig. 4). <IMAGE>

IPC 1-7

**G09G 3/36**; **H04N 5/20**

IPC 8 full level

**G02F 1/133** (2006.01); **G09G 3/20** (2006.01); **G09G 3/36** (2006.01); **H04N 1/409** (2006.01); **H04N 5/66** (2006.01); **G09G 5/00** (2006.01)

CPC (source: EP KR US)

**G02F 1/133** (2013.01 - KR); **G09G 3/3611** (2013.01 - EP US); **G09G 5/006** (2013.01 - EP US); **G09G 2320/0276** (2013.01 - EP US); **G09G 2340/145** (2013.01 - EP US)

Cited by

KR100882209B1; EP1339039A1; EP1249817A3; EP1372137A3; WO02073585A3; WO2008018006A3; US7535450B2

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

**EP 1239450 A2 20020911**; **EP 1239450 A3 20050309**; **EP 1239450 B1 20070228**; BR 0200725 A 20030107; CN 100435589 C 20081119; CN 1375995 A 20021023; DE 60218370 D1 20070412; DE 60218370 T2 20071129; JP 2002372960 A 20021226; JP 4271895 B2 20090603; KR 20020072205 A 20020914; MX PA02002588 A 20041112; US 2002126134 A1 20020912; US 7119774 B2 20061010

DOCDB simple family (application)

**EP 02290585 A 20020308**; BR 0200725 A 20020311; CN 02105692 A 20020309; DE 60218370 T 20020308; JP 2002066044 A 20020311; KR 20020012058 A 20020307; MX PA02002588 A 20020308; US 80348501 A 20010309